



U.S. Department of Energy

Energy Efficiency and Renewable Energy

Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable

Wind Energy Program Technology Portfolio**Low Wind Speed Technology Phase II: Sweep-Twist Blade Design and Fabrication with Atmospheric Test Verification****Knight & Carver**

Project Description: Knight and Carver will develop a sweep-twist adaptive blade (approximately 28 m long) to reduce operating loads and allow a larger, more productive rotor. The blade design will use outer blade sweep to create twist coupling without angled fiber. This concept has potentially significant cost and manufacturing advantages. After the design phase, several prototypes blades will be built using a unique fabrication process. Following static and fatigue tests, three blades will be flight tested on an existing 750-kW turbine and resulting data will be compared to the baseline.

Project Type: Component Development
Total Project Budget: \$2,856,154
Industry Cost Share: \$856,846
DOE Cost Share: \$1,999,308
Planned Project Duration: December 2004-July 2008

Contacts:**NREL/Sandia:**

Tom Ashwill
 Box 5800
 Albuquerque, NM 87185
 505-845-8457
 tdashwi@sandia.gov

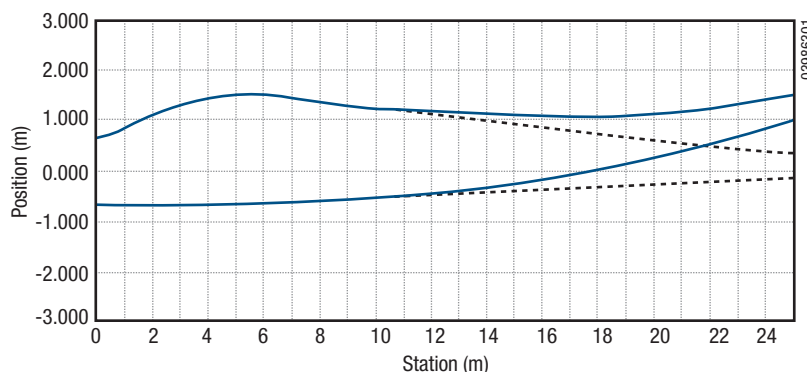
Knight & Carver:

Gary Kanaby, Wind Blade Manager
 1313 Bay Marina Drive
 National City, CA 91950
 619-271-3689 (cell: 619-778-7213)
 Fax: 619-474-4811
 gkanaby@knightandcarver.com

Current Status: In Progress



The initial mold fabrication for Knight and Carver's sweep twist blade.



Planform of the sweep twist blade.

A Strong Portfolio for a Strong America • Energy efficiency and clean, renewable energy will mean a stronger economy, a cleaner environment, and greater energy independence for America. Working with a wide array of state, community, industry, and university partners, the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy invests in a diverse portfolio of energy technologies.

For more information contact EERE Information Center • 1-877-EERE-INF (1-877-337-3463) • www.eere.energy.gov

Produced for the U.S. Department of Energy by the National Renewable Energy Laboratory, a DOE national laboratory

Printed with a renewable-source ink on paper containing at least 50% wastepaper, including 10% post consumer waste.

DOE/GO-102006-2323
 June 2006